

# Proposed acquisition of PI Advanced Materials

28 June 2023

# PI Advanced Materials (PIAM) acquisition is a rare opportunity



## New significant milestone in Arkema's transformation into a pure Specialty Materials player

- PIAM is **the global leader** in **polyimide films**
  - ultra-high performance and cutting-edge technology
  - **best-in-class** manufacturing
- PIAM delivers **superior growth** in attractive **consumer electronics** and **electric vehicles** markets
- PIAM's sales expected to grow at **13% p.a.**
  - **unique opportunities** for polyimide in increasingly demanding applications (Li-ion batteries, 5G antennas, OLED displays or flexible screens)
  - **recent capacity expansions**



Broadening Arkema's polymer range and strengthening the Advanced Materials segment's portfolio and performance

# Transaction summary



## Transaction Description

Proposed acquisition of Glenwood Private Equity's **54% stake** in the listed South Korean company PI Advanced Materials (PIAM)

- PIAM 2022 sales of over €200m and EBITDA margin of **around 30%**
- **Full consolidation** in Arkema's financial statements
- Remaining 46% to stay listed on the Korean stock exchange

Closing expected end-2023

## Transaction Consideration

Transaction price based on a **€728m** enterprise value for the 54% stake

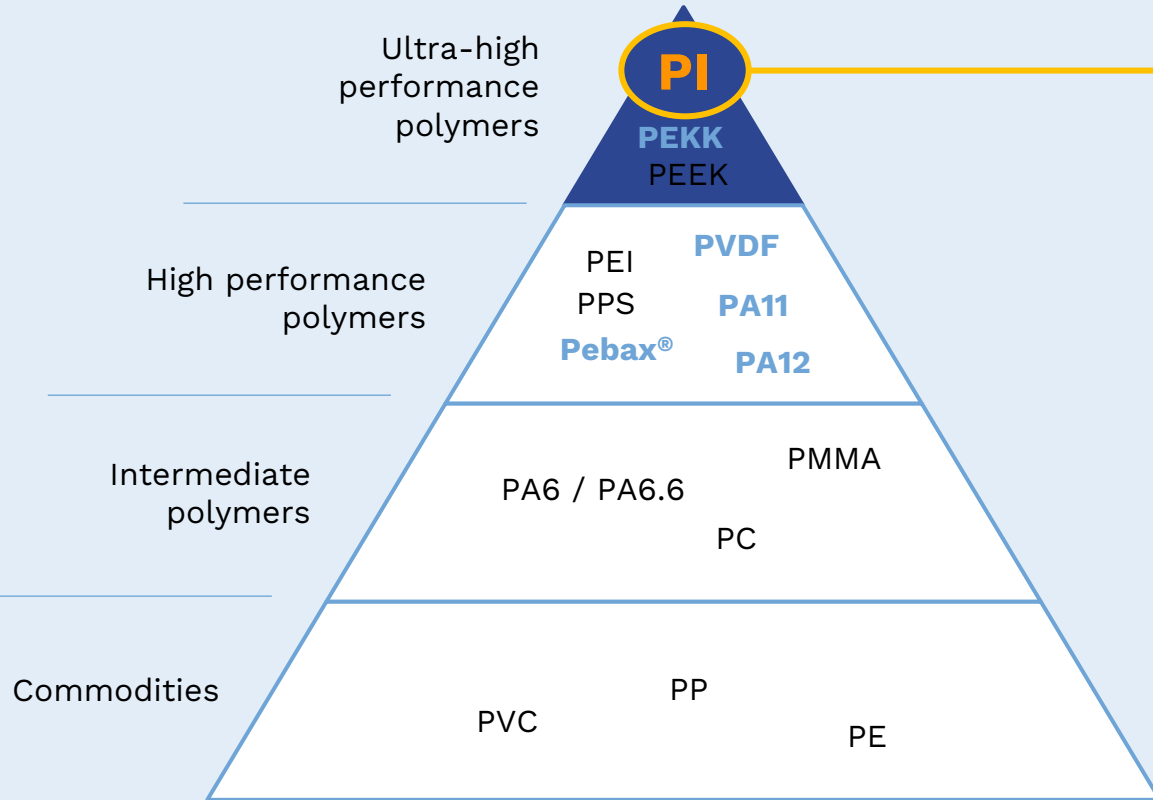
- **c.20x** average 2021/2022 EBITDA
- **8x** 2027e EBITDA post synergies (~€30m)

## Financing and Leverage

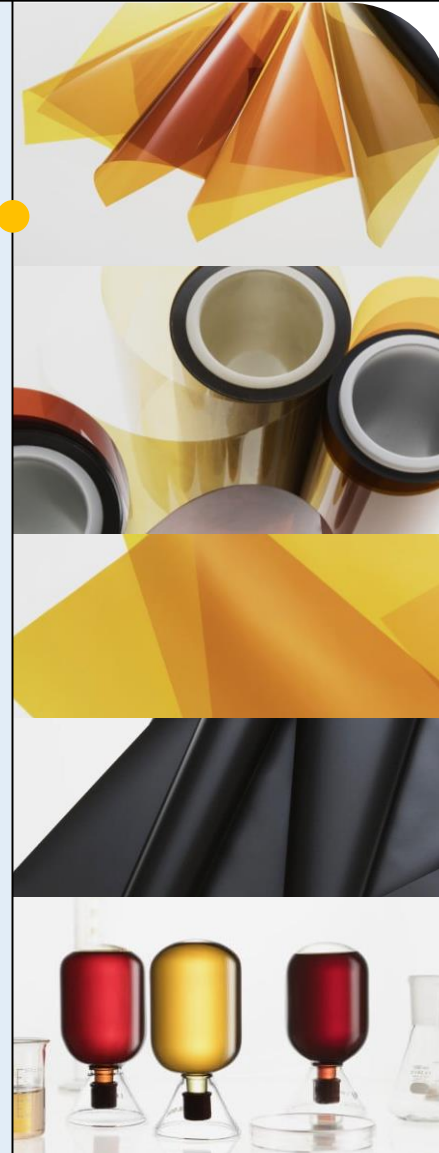
Financed **fully in cash**

Maintaining a **strong balance sheet** with a net debt on EBITDA ratio within Arkema's financial leverage objective of **2x**

# Polyimide is at the top of the polymers' performance pyramid



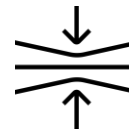
Arkema's high performance polymers portfolio



## Outstanding properties



Withstanding extreme temperatures (400°C)



Exceptional flexibility and dimensional stability



Superior electrical insulation in high voltage environment

# The acceleration of PI demand is driven by megatrends

**Global PI market is expected to grow +9% p.a. over 2022-2027**



## Mobile devices

More powerful batteries, processors and development of 5G

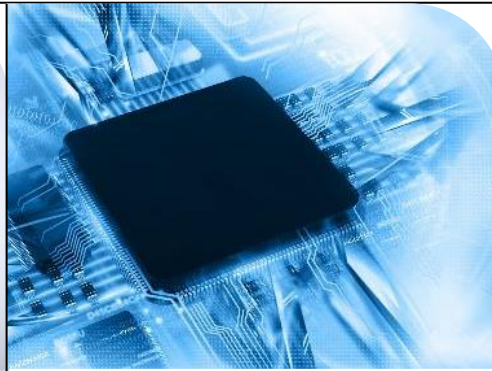
PI as material of choice thanks to its outstanding heat resistance fitting higher thermal requirements



## Displays

Sharp increase in screen resolution, growth of OLED technology and flexible screens

PI particularly suitable as substrate for higher resolution OLED displays as well as thin and flexible screens



## Semiconductors

Increased demand for silicon wafers in various applications

PI especially used as insulation layer due to heat resistance and passivation layer in semicon manufacturing



## Electric vehicles

Global car electrification

PI widely used in battery insulation tape, battery management systems and in high voltage electric motors



## General industry

High-end markets such as aerospace, solar cells, etc.

PI with extreme thermal and mechanical properties compared to standard materials

# PIAM is a global leader in polyimide-based materials



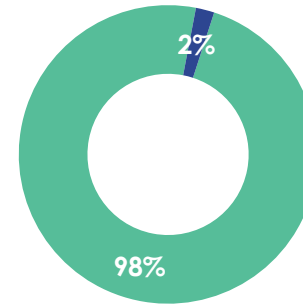
**> €200m**  
Sales in 2022

**c.30%**  
EBITDA margin

**~320**  
employees

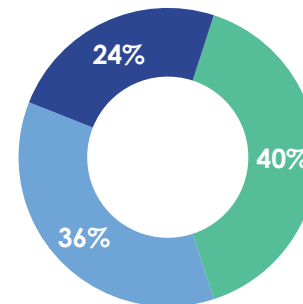
**2**  
R&D platforms

**2**  
production sites  
in South Korea



### PI-based materials

- Films
- Varnishes and powders

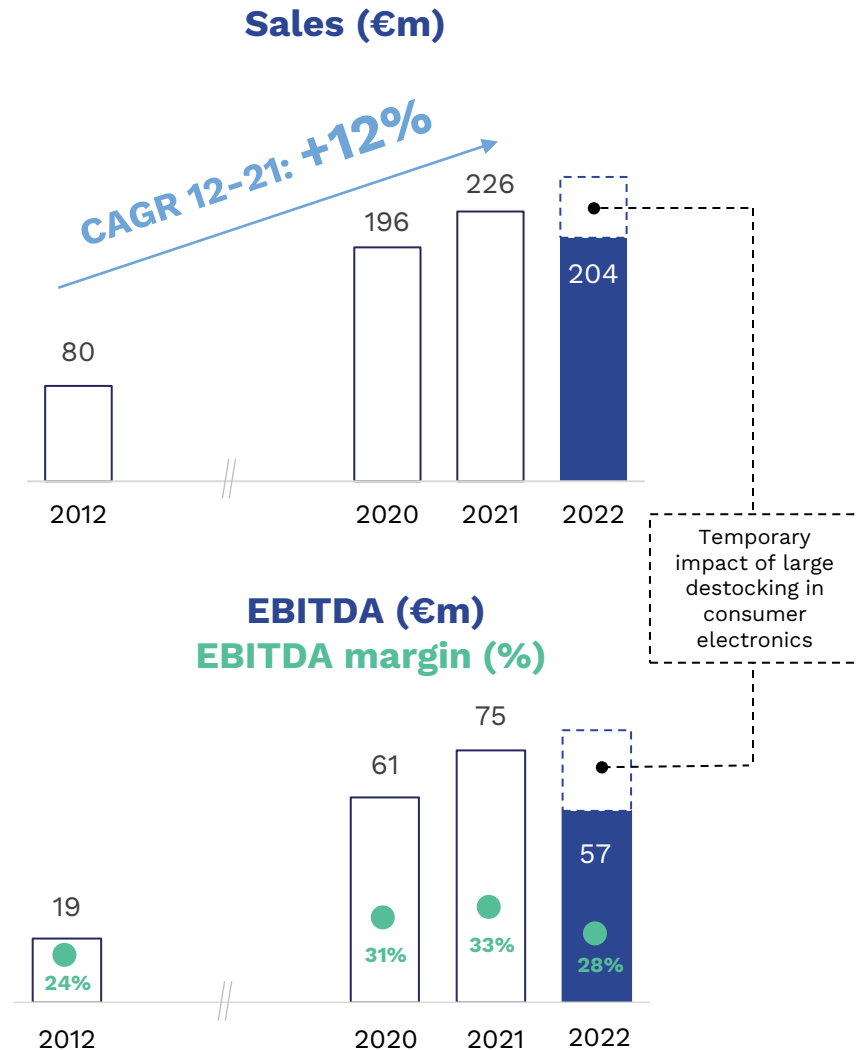


### Products & applications

- FPCB (flexible printed circuit board)
- Graphite Sheet
- Advanced Industrials

*% of 2022 sales*

# PIAM is a highly innovative company with superior growth profile, industry leading margins and best-in-class manufacturing



Exchange rate: 0.00075 EUR / KRW

**Top quality** and **high value-added** polyimide products

**Strong customer intimacy** in very attractive and high growth markets (electronics, electric vehicles)

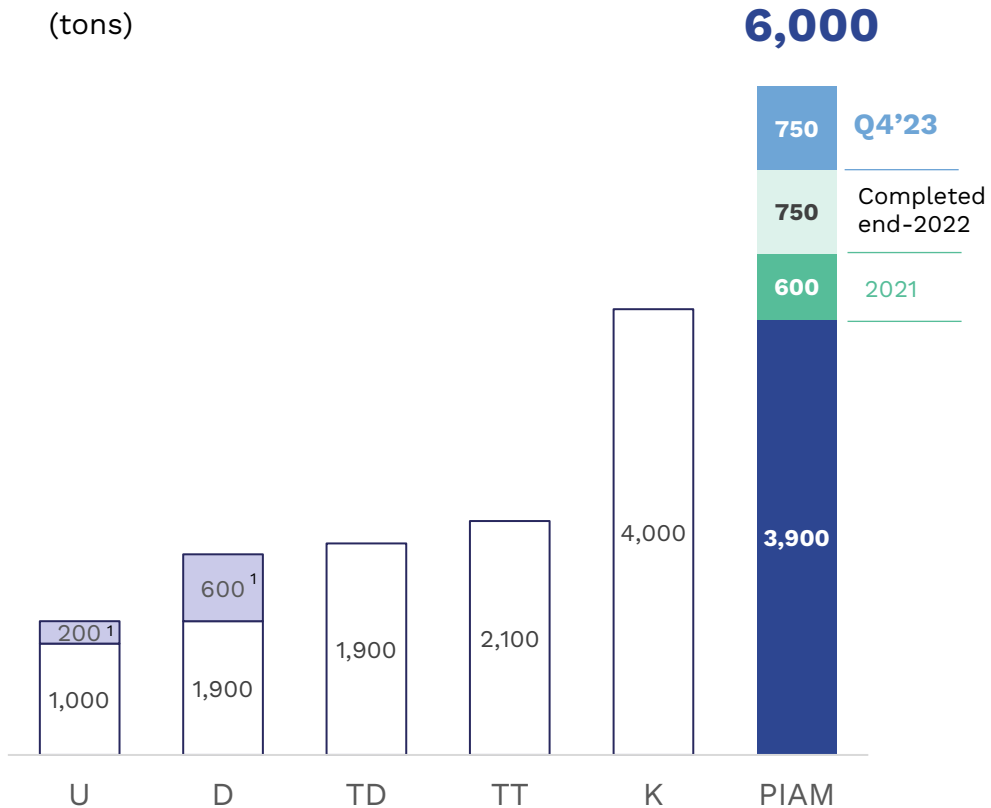
**2** state-of-the-art and **competitive** production sites in Jincheon and Gumi (South Korea)

**6,000 tons** PI film production capacity including **2,100 tons** recent capacity expansions in 2021-2023

**>90%** sales in Asia

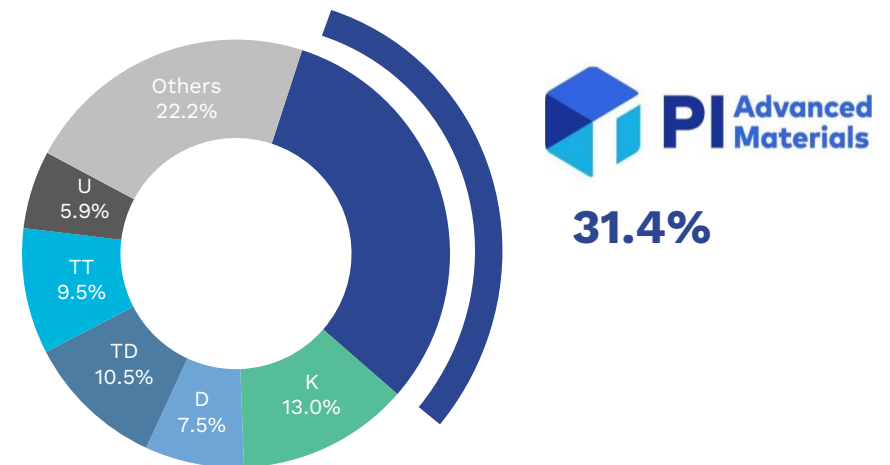
# PIAM is the global #1 in PI film since 2014

## Largest PI film production capacity



1. By end-2024

## #1 global PI film market share



	FPCB	Graphite sheet	EV battery	Flexible display	5G	Chip On Film
PIAM	◆	◆	◆	◆	◆	◆
K	◆	◆	◆		◆	
TT	◆	◆	◆			
D+TD	◆	◆	◆		◆	◆
U	◆					◆

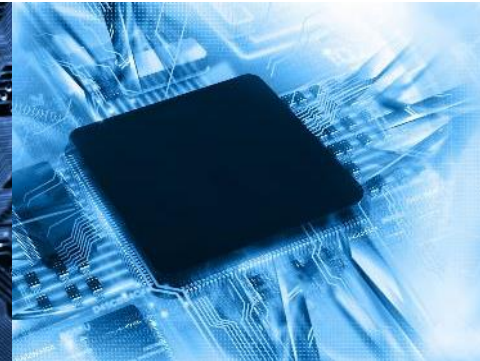
Sources: Yano Research, PIAM estimation



# Megatrends and innovation are driving PIAM's superior sales growth

## CONSUMER ELECTRONICS

## CLEAN MOBILITY



### Mobile devices

- Flexible Printed Circuit Boards (FPCB) for thin and flexible features
- Graphite sheets to limit excessive heat of internal components

### Displays

- FPCB protection films for flexible screens
- Chip on Film for high resolution OLED displays
- Thin film transistor substrate (varnish)

NBD

NBD

### 5G technology

- 5G antennas

NBD

### Semiconductors

- Electrical insulation (varnish) during semiconductor manufacturing process
- Photosensitive PI (PSPI) for electronic circuit patterning

NBD

### Electric vehicles

- FPCB for Battery Management System, cameras, sensors
- Rechargeable battery insulation (film)
- Insulation of electric motor wires in electric vehicles

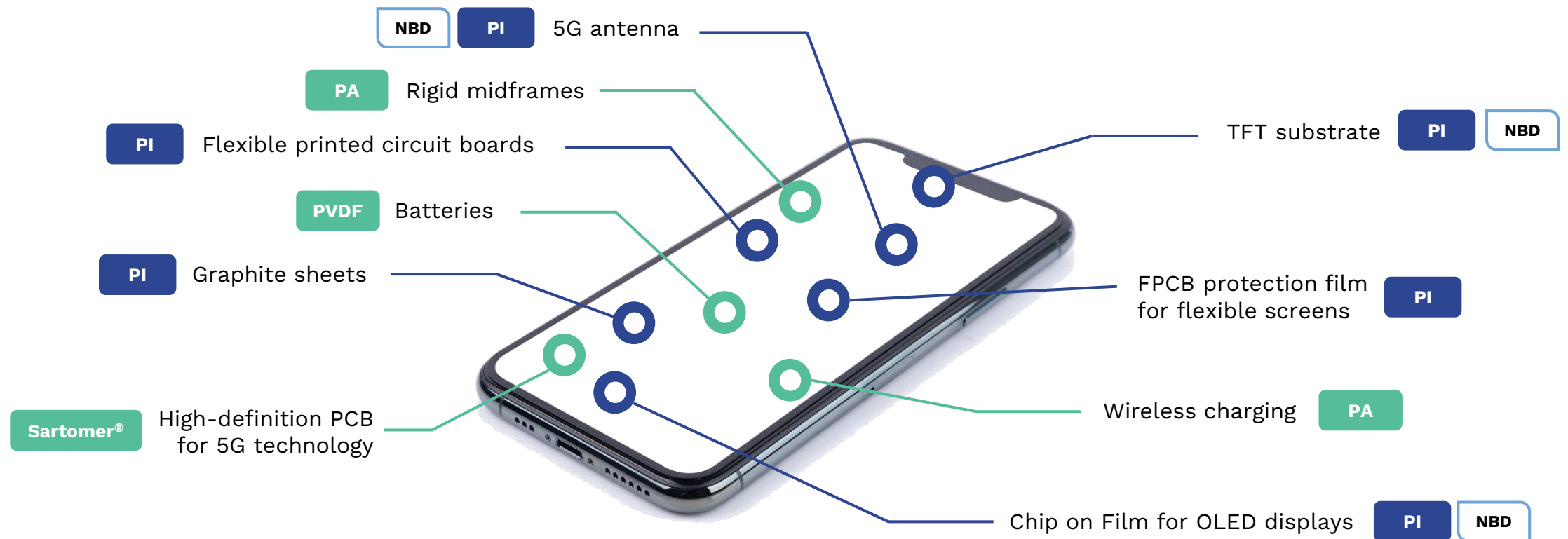
NBD

NBD New Business Development

# Strong complementarities with Arkema's portfolio of solutions and cutting-edge innovation in attractive markets (1/2)

## Smartphones and 5G technology

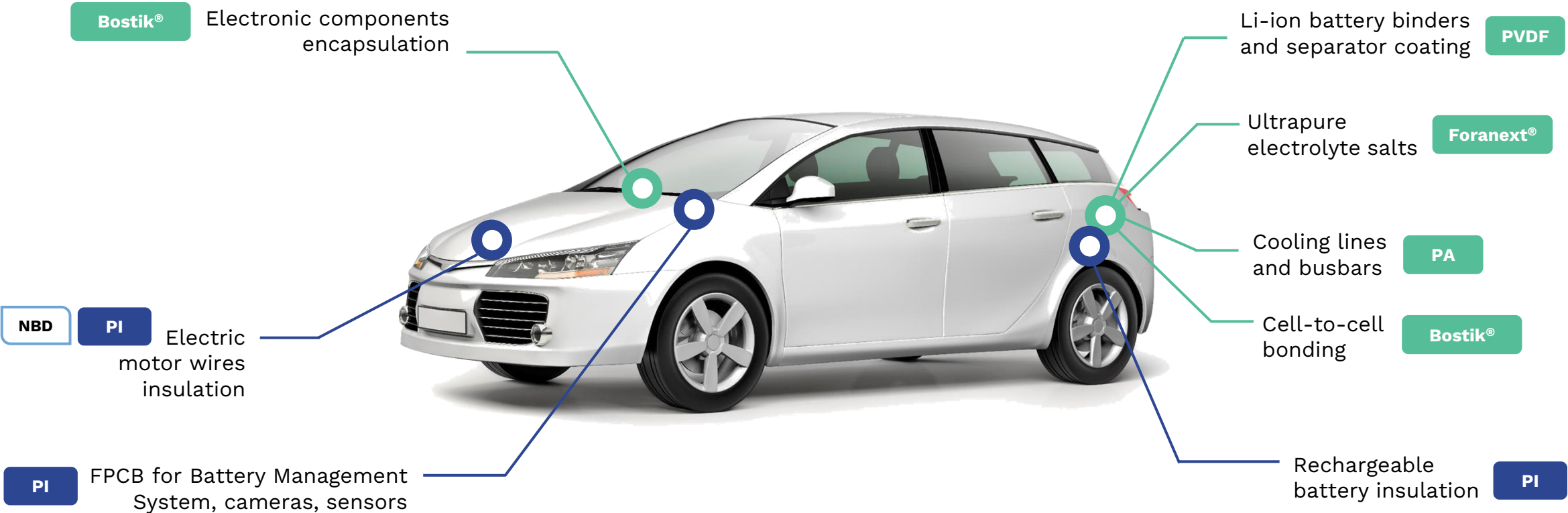
Est. PI market growth  
c. +5% p.a.



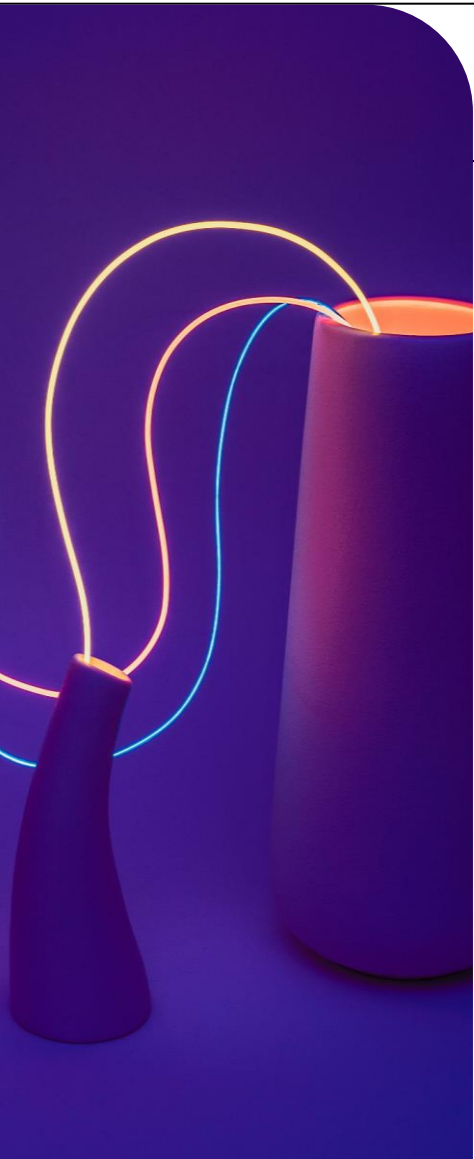
# Strong complementarities with Arkema's portfolio of solutions and cutting-edge innovation in attractive markets (2/2)

## Electric vehicles

**Est. PI market growth  
c. +25% p.a.**



# Leveraging the perfect complementarities



## PIAM

Expand PIAM's **sales outside its current geographies** thanks to Arkema's presence in Europe and in the US

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Accelerate PIAM's sales in **electric vehicles** by leveraging Arkema's strong customer relationships with OEMs

## Arkema

Develop Arkema's sales in smartphones and batteries by taking advantage of PIAM's **strong relationship with its strategic OEM customers**

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Accelerate **new business developments in electronics** along with Arkema's specialty products portfolio, in particular Sartomer® and Bostik®

# High growth potential driven by PIAM's leading positioning and strong synergies with Arkema

## **PIAM's sales growth expected at 13% p.a.**

- Highly attractive markets linked to megatrends (consumer electronics, electric vehicles)
- Strong innovation pipeline with successful customer qualifications in strategic applications
- Recent capacity expansions

## **€30m synergies expected within 5 years**

- Perfect complementarities of product ranges
- Arkema's geographic reach
- PIAM's strong customer intimacy in Asia



Transaction multiple reduced to 8x 2027e EBITDA

# Key takeaways



**New significant milestone** in Arkema's transformation into a pure Specialty Materials player

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**Rare opportunity** to broaden high performance polymer ranges with an **ultra-high performance and cutting-edge technology**

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**Strengthening** of **Advanced Materials** segment's portfolio and performance

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**Arkema's technological profile** now **uniquely positioned** to benefit from the accelerating demand linked to **megatrends**

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In the coming years, **priority given to organic growth** in attractive markets and applications

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In **M&A**, the Group will continue to work on the deconsolidation of Intermediates and will focus its acquisitions program on bolt-on operations, particularly in adhesives

# Disclaimer

The information disclosed in this document may contain forward-looking statements with respect to the financial condition, results of operations, business and strategy of Arkema.

In the current context, where the Covid-19 epidemic persists across the world, and where the consequences of the Russian offensive in Ukraine and the economic sanctions against Russia on geopolitical equilibriums and the world economy remain uncertain, the retained assumptions and forward looking statements could ultimately prove inaccurate.

Such statements are based on management's current views and assumptions that could ultimately prove inaccurate and are subject to material risk factors such as among others, changes in raw material prices, currency fluctuations, implementation pace of cost-reduction projects, development of the Russian offensive against Ukraine, developments in the Covid-19 situation, and changes in general economic and business conditions. These risk factors are further developed in the 2022 Universal Registration Document.

Arkema does not assume any liability to update such forward-looking statements whether as a result of any new information or any unexpected event or otherwise.

Further information on factors which could affect Arkema's financial results is provided in the documents filed with the French *Autorité des marchés financiers*.

Financial information since 2005 is extracted from the consolidated financial statements of Arkema. Quarterly financial information is not audited.

The business segment information is presented in accordance with Arkema's internal reporting system used by the management.

The main performance indicators used by the Group are defined in the 2022 Universal Registration Document. As part of the analysis of its results or to define its objectives, the Group uses in particular the following indicators:

**EBITDA margin:** corresponds to EBITDA as a percentage of sales, EBITDA equaling recurring operating income (REBIT) plus recurring depreciation and amortization of tangible and intangible assets

**REBIT margin:** corresponds to the recurring operating income (REBIT) as a percentage of sales

**Free cash flow:** corresponds to cash flow from operations and investments excluding the impact of portfolio management

**EBITDA to cash conversion rate:** corresponds to the recurring cash flow divided by EBITDA